

permanently lost their central nervous system connection.

By destroying part of the central nervous system connection of the main nerve to the leg in rabbits symmetrically (through evulsing the same roots on both sides of the cord) and then crushing the main nerve on one side after paralysis, Doctor Billig was able to obtain considerable improvement in muscle strength on the crushed side. With further work on humans, it was discovered that the more peripherally the nerve was crushed the less sensory nerves were destroyed. Furthermore, it was found that the closer the axon was interrupted to the muscle fiber, the more effective were the connections that resulted from arborization. At the present time, Doctor Billig is interrupting the nerve fibrils within the muscle itself by mechanically evulsing the muscle fibers. Patients who have undergone this form of treatment seem very pleased with the results. Some have even kept graphic records of their muscle strength, as determined by spring balances. Certainly, this work offers the greatest possibilities for increased muscle strength in the old case of poliomyelitis; especially when one considers that this procedure may be repeated many times, and usually with some increase in muscle strength each time.

CONCLUSIONS

1. Quarantine of poliomyelitis is of very little value except to prevent panic and to satisfy public demand.
2. Sanitation has had no demonstrable effect on the distribution of poliomyelitis.
3. When infection with the virus of poliomyelitis occurs, previous tonsillectomy predisposes to the bulbar form of this disease.
4. A search for muscle spasm is a definite help in the diagnosis of poliomyelitis.
5. Hot packs during the spasm stage and subsequent muscle reeducation offer the most for the acute cases. Nerve crushing offers interesting possibilities for increasing muscle strength in the old case.

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OBSTRUCTIVE SUBMUCOUS LIPOMA OF THE CECUM*

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LIPOMAS are adipose tumors which may occur anywhere within the body. A congenital tissue predisposition in the form of disturbance of development of fat tissue is thought to be a causative factor in some of these neoplasms.¹ It has been demonstrated that the fat lobules are endowed with an independence in development which classifies them as a kind of primitive origin.² The blood supply of the lobules in these tumors is comparatively isolated, which suggests that the anomaly predisposing to lipoma is connected with the distribution of blood vessels in the fatty tissues. While the large majority of lipomas are benign, Hogue³ recently pointed out that there are indications that many more are malignant than would seem by the records.

Lipomas appearing in the gastro-intestinal tract are pathologically either subserous or submucous. In the subserous coat they project outward into the peritoneal cavity, and in the submucous coat they grow inward. The submucous type occurs chiefly in the large bowel, less often in the small bowel, and rarely in the stomach. In the order named, they most frequently involve the cecum, ascending colon, sigmoid flexure, transverse colon, rectum, and descending colon. The subserous form is believed to arise from the appendiceal epiploica, and is less likely to be symptomatic than the submucous type which arises from the fat cell deposits between the mucosa and muscularis coats of the intestine.

These adipose tumors are either sessile or pedunculated. Grossly, they may be spherical, pyriform, ovoid, or lobulated. They are sharply circumscribed if not encapsulated. Although they are of rare occurrence, lipomas are the commonest benign tumors in the gastro-intestinal tract, excluding adenomatous polyps. Comfort⁴ suggests that, with more careful examination than is usually accorded the small and large bowel at necropsy, the reported incidence would probably increase. A positive diagnosis is rarely made before surgical exploration.

REPORT OF CASE

H. J., a white female, aged 36, was admitted to the hospital because of severe cramping pains of four days' duration. The pain originated at the site of an old gall-bladder incision and radiated across the upper abdominal quadrants. Seven days prior to admission, the first attack occurred with several loose watery stools; a hot-water bottle applied to the upper abdomen gave relief. Three days later a second attack occurred and heat afforded moderate relief. Two days later there was a severe exacerbation, and the distress continued unabated despite hot applications and soda enemata. Nausea, vomiting, bloody stools, or abdominal distention were never present.

Except for typhoid fever at the age of 12 years, and cholecystectomy and appendectomy in 1929, the past history was noncontributory.

Physical examination disclosed no significant pathology except in the abdomen, where moderate tenderness was

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Figs. 1 and 2.—Gross appearance.

present in both upper quadrants, and in the epigastrium; but there was no rigidity, distention, or palpable masses. The liver, kidneys, and spleen were not palpable. Blood pressure was 120/80; temperature, 97.4 degrees Fahrenheit; pulse, 80; and respirations 16.

Blood count showed: hemoglobin, 76; red blood cells, 4,450,000; color index, 85; white blood cells, 7,800; neutrophils, 65 per cent; eosinophiles, 2.5 per cent; basophiles, 1; lymphocytes, 25.5 per cent; monocytes, 6. The urine was cloudy and yellow with a specific gravity of 1.001; neutral reaction; slightly sugar-positive; no albumin or acetone; a few leukocytes; no red blood cells or casts. The blood Wassermann was negative. Nonprotein nitrogen was 22 milligram per cent; serum albumin, 4.1 milligram per cent; serum globulin, 2.6 milligram per cent.

Roentgenographical studies of the intestinal tract six hours after a barium meal showed the stomach to be of medium size, hypertonic type, vertical axis, lowest point of greater curvature one inch above the anterosuperior inter-spinous line. Pylorus and bulb were to the right of the mid-line at the level of the third lumbar vertebra. The stomach was freely movable. There was an irregular filling defect in the region of the cecum. Peristalsis was normal, evacuation irregular. Some gastric and duodenal residue was present at the end of six hours. A motor meal expelled showed an irregular colonic hypermotility with spasticity and the head of the meal in the descending colon. The twenty-four-hour film showed the major portion of the colon practically empty.

Barium enema disclosed a filling defect in the cecum measuring two inches in diameter and spherical in outline, probably due to a new growth. There was beginning partial obstruction at the ileocecal junction, with moderate dilatation of the terminal loop of the ileum. Diagnosis: New growth in the cecum.

The initial attack occurred on October 8, 1940. The patient was hospitalized one week later, on October 15, 1940, two days after the severe exacerbation. Operation was performed on October 30, 1940. The gross characteristics (Figs. 1 and 2) of the tumor were not visible through the cecal wall. The mass was attached by a rather wide base to the extreme tip of the cecum and was dimpled over a wide area on the serosal side. The serosal surface of the cecum was bluish and congested, and the tumor was covered with stretched mucosal tissue which contained several small but distinct shallow ulcers. A regional lymphadenitis proved to be simple hyperplasia on microscopic section. The picture was suggestive of carcinoma.

Through a midright rectus incision the lateral peritoneum was incised along the cecum and ascending colon, also the peritoneum on the medial side of the colon. The mesentery was stripped medialward. Care was taken not to disturb the duodenum or the ureter. The ileum was divided about six inches from the ileocecal valve with the cautery. The transverse colon was divided with the cautery at about three inches from the hepatic flexure. The mesenteric vessels were ligated close to the root so as to get all of the enlarged glands possible. The specimen, a tumor about the size of a lemon in the wall of the cecum, was removed. A Murphy button was inserted in the loop of the ileum and fixed with a running stitch. The mate to this portion of the button was inserted into the transverse colon and the end closed with a ligature of linen, and the stump inverted with a purse string of gastro-intestinal material, reinforced with several Lembert sutures. Tag of omentum was placed over this and sutured. The button in the transverse colon was exposed along one of the tinea and incision made at this point, allowing the coupling portion to protrude. Two portions of the button were then clamped and a circular seromuscular stitch was placed uniting the ileum and the transverse colon. An enterostomy was performed about 10

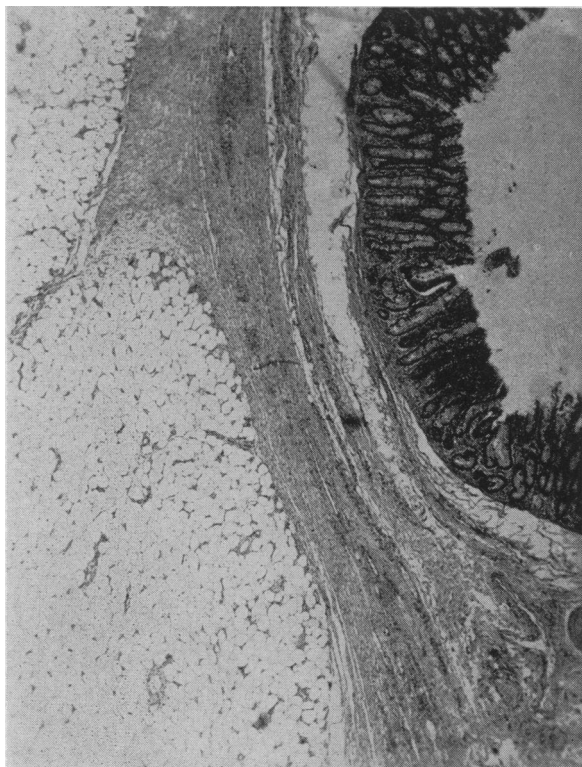


Fig. 3.—Low-power view (X30) showing normal mucous membrane separated by thin fibrous capsule from adult fat comprising submucous lipoma.

inches proximal to the anastomosis, using a No. 16 French catheter, double purse string, bringing it out through a second stab incision. Posterior peritoneum was approximated with continuous No. 2 iodized; the abdomen was closed in layers, using No. 0 tanned double to the peritoneum; No. 2 tanned double to the fascia; continuous horse-hair and figure-of-eight silkworm gut retention sutures. A small Penrose drain was inserted into the fat at each angle.

The postoperative course was uneventful and the patient made a satisfactory recovery.

DISCUSSION

Symptoms generally fall into two groups: (1) Chronic, where there are minor attacks of partial intestinal obstruction over a period of years. In these cases the pain is usually colicky in character and not severe. Constipation, diarrhea, abdominal distention, nausea, and vomiting may occur, but a bowel movement usually affords relief. Sometimes the attack terminates in a bloody, diarrhetic stool. The patient may go for many months entirely free from distress. There is no periodicity to these attacks. (2) Acute, with severe abdominal pain, protracted vomiting, abdominal distention, bloody diarrhetic stools, or constipation. On the other hand, the only symptoms may be abdominal pain, as in the case presented here.

Joyce⁵ points out that unexplained gastro-intestinal bleeding, intermittent obstruction, or a history not typical of any other common abdominal lesion, should suggest a diagnosis of a small intestinal tumor.

When the symptoms are the chronic type, carcinoma is usually suspected. It is noteworthy that,

with lipomas, there is rarely the progressive failure of general health; between bouts the patient is in good health. Weight loss is not often present to a significant degree, and the average duration of symptoms in lipoma is much longer than carcinoma. It is true that in a few cases there may be marked and rapid weight loss, and anemia is present. The weight loss is often due to fear of eating lest an attack be precipitated and, as in carcinoma of the cecum, the exact reason for anemia in lipomas is not known. The fact that lipomas frequently make their appearance in the so-called "cancer age" increases the difficulties of differential diagnosis.

A preoperative diagnosis of appendicitis is often made in acute cases, especially when the lipoma involves the cecum and ascending colon. In appendicitis the pain is usually constant and aching in character; the distress becomes localized and the patient tends to lie quietly in bed. In acute obstruction due to lipoma, the pain is colicky, the patient restless. Hyperperistalsis may be detected by sight or by auscultation; a mass may be palpated; and abdominal distention, when present, is usually more marked than in appendicitis.

Since adipose tissue is the most radiable of all tissues, a double contrast technique may occasionally afford a diagnosis by roentgen ray. Roentgenographic examination of lipomas in the large intestine presents a picture similar to other sessile and pedunculated tumors; that is, filling defects, visualization of a polypoid mass and, often, intussusception. When the tumor is in the small bowel, the roentgenogram is of little value in diagnosis.

The blood picture is usually within the limits of normal. There may be an occasional leukocytosis, especially if the patient has had any degree of obstruction and temperature elevation. When there has been gastro-intestinal hemorrhage, a secondary anemia is sometimes present. However, none of these findings is of diagnostic value.

Lipomas are divided into lobules by septa of the supporting stroma; they are plentifully supplied with arterioles and numerous capillaries and appropriate vascular stroma. Microscopically, the fat cells are of the adult type (Fig. 3). In some cases the intestinal wall is so thinned externally that the yellowish, fatty tumor may be seen grossly. A diagnosis of lipoma is then apparent and may radically alter the surgical procedure. Generally speaking, the tumors in the small intestine are smaller than in the large intestine, ranging from 1.5 to 4 centimeters in diameter in the small bowel, and from 5 to 10 centimeters in diameter in the large intestine. Occasionally, regional lymphatics will be enlarged. This presents a simple hyperplasia and occurs in some cases where there are small ulcers in the intestinal mucosa, the result of pressure of the tumor growth.

If the tumor is recognized at surgery, Joyce advocates a simple enterostomy and resection of the benign lesion without opening the intestinal mucosa, thereby preventing possible contamination of the peritoneal cavity. This procedure is possible only in cases where the risk is exceptionally good. If obstruction is complete and other factors make the

patient a poor risk, then some type of two-stage procedure is advisable. The Mikulicz operation, or some of its minor modifications are advised for lipomas of the transverse, descending, or sigmoid colon. The surgical procedure as outlined in the case report given in this paper is a more or less typical operation for lipomas when the risk is good.

The mortality is directly proportional to the condition of the patient at the time of surgery. When the operation is performed before the patient's condition becomes grave, a very good prognosis and uneventful convalescence may be expected. If the patient is a poor operative risk, then the reverse is true.

SUMMARY

Unexplained gastro-intestinal bleeding, intermittent obstruction, or a history not typical of any other common abdominal lesion, should suggest a diagnosis of small intestinal tumor.

A positive diagnosis of lipoma in the gastro-intestinal tract is rarely made before surgical exploration.

Simple enterostomy and resection of the benign lesion without opening the intestinal mucosa is possible only in cases where the lipoma is recognized at surgery and the risk is exceptionally good.

If obstruction is complete and other factors make the patient a poor risk, a two-stage procedure is advisable. The Mikulicz operation or some of its minor modifications are advocated for lipomas of the transverse, descending or sigmoid colon.

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Ashhurst's Splint.—John Ashhurst, Jr., was regarded as the most learned surgeon of his day by distinguished contemporaries. For his contributions to the surgery of bones and joints he has been justly ranked with Billroth and Volkmann, Gurlt and Legouest. Among his written works are a classic article on shock, cerebral concussion and hemorrhage, and one on spinal surgery. The American edition of Erichsen's "Surgery," and the "International Encyclopedic Surgery" were edited by him. He wrote a textbook of his own on surgery that was widely quoted.—Warner's *Calendar of Medical History*.

Baker's Cyst.—Unlike such eponyms as the Argyll-Robertson pupil, which are universally recognized and constantly applied in medical diagnosis, there is another type of eponym to which reference is made but rarely. Possibly, in these instances, as in the case of Baker's cyst, it is the misquoting or loss of the original papers that account for the unfamiliarity of many physicians with the eponym. As for Baker, his name should be reserved for synovial cysts of the leg since his was the original presentation on this condition.—Warner's *Calendar of Medical History*.

CLINICAL NOTES AND CASE REPORTS

GANGLION

REPORT OF CASE

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TREATMENT of ganglion of the wrist is considered so minor that our surgical textbooks usually discuss it in a short paragraph, and in the discussion of treatments one is advised either to break the cyst with a book or to excise it. As a matter of fact, there is an unsatisfactory percentage of recurrences after surgery, and that is why the old-fashioned method of breaking the cyst walls with a book is still advised, though that method does not cure many of the cases. Then, too, when surgery is resorted to, there is always a scar on the extensor surface of the wrist.

REPORT OF CASE

With a patient of mine I was particularly interested in the scar as well as the result, inasmuch as the patient was my daughter. I decided to aspirate and inject a small amount of sclerosing solution, using a 15-gauge needle. I aspirated the thick, jelly-like contents, and injected 10 minims of Searles' Synasol. This was withdrawn and re-injected several times, and 5 minims allowed to remain in the sac. A firm bandage was applied.

There was no reaction the first night, but on the second night there was considerable pain, and a splint was applied and salicylates given. This pain disappeared in twenty-four hours. In about a week the cyst recurred, being about one-half its original size. I again aspirated with a 15-gauge needle and obtained only clotted blood. The cyst has since completely disappeared, with no sign for over three months of a recurrence.

I spoke to Dr. Hollis Carey of Gridley about the case and he immediately tried the same technique on one of his patients, and with the same result. The painful reaction occurred on the second day, but disappeared in a few days, with the resultant cure of the cyst.

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MEDICAL EPONYM

Weil's Disease

This was first described by A. Weil (1848-1916), of Heidelberg, in an article entitled "Ueber eine eigenthümliche, mit Milztumor, Icterus und Nephritis einhergehende, acute Infectionskrankheit [A Peculiar Acute Infectious Disease accompanied by Enlargement of the Spleen, Jaundice and Nephritis]" in *Deutsches Archiv für klinische Medicin* (39:209-232, 1886). A portion of the translation follows:

"In all four cases we were dealing with an acute febrile disease that was accompanied by severe nervous phenomena with enlargement of the spleen and liver, icterus and nephritic symptoms, but which, after a relatively short duration of the severe symptoms, followed a rapidly favorable course."—R. W. B., in *New England Journal of Medicine*.

A trained force of mosquito fighters is helping public health officials in finding and eliminating mosquito breeding grounds near Army cantonments.